

The text "AIRCRAFT INTERIORS AIRFRAME DESIGNS" is written in a bold, white, sans-serif font. It is contained within a dark blue, rounded rectangular shape that has a white swoosh on its left side. The background of the entire page is a composite image showing an industrial refinery at night with tall distillation columns and a white commercial airplane with blue stripes flying in the foreground.

AIRCRAFT INTERIORS AIRFRAME DESIGNS

WHAT WE OFFER

- Engineering Resources
- Technical Documentation Service
- Drawing & Design Service
- FEA Software
- Electrical Systems | Aerospace
- Aircraft Fatigue Analysis
- Thermal Analysis
- Advanced Composite Repairs
- Petroleum Refinery
- Aircraft Interiors

**Premium
Industrial Services
For Your Business**

**Global Certified
ISO 9001:2016**

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Suite 3100, Dallas, Texas 75201

Email: info@aircraftcerts.com
Web: www.aircraftcerts.com

OUR SERVICES

ACerts systems are cutting edge and distinguished by exceptional engineering, unique styling and cutting-edge innovation. We offer custom design and engineering solutions PDR's and CDR's, we provide exclusive aviation services for VIP aircraft, including space shuttle space telescopes and sensors, special mission, head of state, private, and sports team aircrafts. Our expert staff walks you through the entire process from concept to build out ensuring the designs and final product meet your exact specifications.

Over 9 Years Of ACerts Family Journey

Innovations in high-rise building design ACerts carbon-fiber hoisting technology is among the breakthroughs named 2013 Innovation Award winners by the Council on Tall Buildings. Over 200 high-rise towers and many low-rise buildings glazed to the highest of industry standards. For more than 25 years high rise Glass has been leaving an imprint of professionally glazed towers in the architectural landscape of Canada and USA.

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- » Petroleum Refinery
- » Aircraft Interiors



ACerts Inc. Aircraft Parts Supply Company is a specialized stocking and value-added distributor of electromechanical products serving the military, general and commercial aviation industries since 2009.

Acerts Inc., we develop new products and manufacturing processes. We provide Dynamic crash analysis services in advanced composites using high end software such as LS_Dyna and Abaqus. Acerts offers solutions to government's agencies and the aerospace industry. We are the quiet partners who stand beside you in getting the project to the finish line or to get an expensive asset back in the air.

Acerts engineering support services: System Engineering, technical support, resources for requirements definition, security assessments, trade-off and feasibility studies, design, development, testing, installation, investigation, creation and verification of technical documentation, plans, and drawings related to technical management concepts; and performance, compatibility, interchangeability, interface, and operational evaluations.

We manage product testing, to include reviewing and creating test standards and specifications; developing Test Evaluation Management Plans, scheduling, identifying necessary assessors, arranging external services, and fabricating thresholds for performance.

We further analyze outcomes and develop cogent reports for decision-makers based on test results and recommendations. We manage products from Initial Operational Capability to operations support. We provide full life cycle management capabilities Fatigue life include planning, operator training management, logistics support, in-service engineering, coordination of new technologies and modernization, post-construction assistance for maintenance, repair and overhaul, configuration management, and obsolescence management on a long-term orchestrated program to attain life cycle cost reductions. While these service areas are broad-based in nature and applied across a wide range of industries, it is the synergy of our expert team that sets us apart from other firms. For real resources to depend on and world Largest aircraft, select Acerts.



Expert Aircraft Interiors And Airframe Designs

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INTERIORS

- Interior Configuration Development
- World Class aircraft interior designers
- Component Design
- Conceptual Renderings (2D, 3D)
- Fabric Board Presentations
- Specification Documentation
- Specification Control Drawings
- Exterior Paint Schemes
- Design Engineering/ Working Drawings
- FAA Approvals and Certification

MECHANICAL SYSTEMS

- Heating, Ventilation and Air Conditioning
- Potable/Grey Water Systems

PROPULSION SYSTEMS

- Engine Installation
- **AIRFRAME**
- Conceptual Airframe Design
- Airframe Modification
- Design Engineering Drawings
- Composites Design

COMPONENT DESIGN DFM PDR'S and CDR's

- Cabinet and Galley components
- Seating
- Lighting Fixtures
- Latches
- Interior Panel Systems

AVIONICS SYSTEMS INTEGRATION

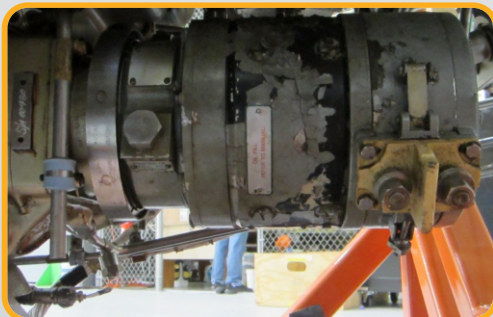
- Wiring Diagrams
- Equipment Installation Drawings
- Total Systems Integration

ELECTRICAL/CONTROL SYSTEMS

- Power/ Distribution Systems
- Emergency Power and Lighting Systems

AUDIO VIDEO ENTERTAINMENT SYSTEMS

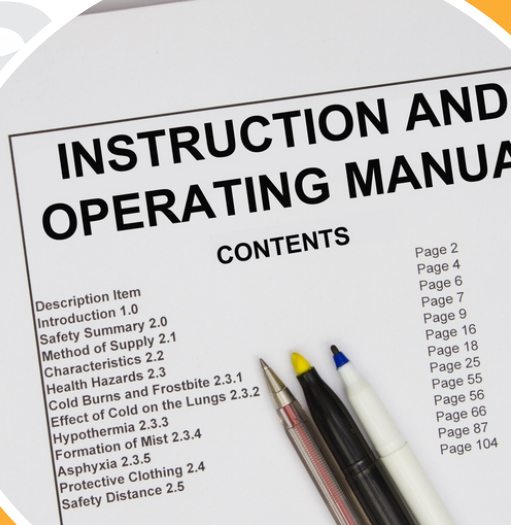
- ICS
- Audio/Video System



TECHNICAL DOCUMENTATION SERVICE

Generating quality documentation is time-consuming and difficult. It requires extreme attention to detail, a thorough understanding of the subject matter and keen insight into the target audience. You must know what to write, who to write it to, how to write it and finally, it has to be correct. Our talented group of engineers and tech writers have combine years of experience generating documentation of the utmost quality and will assist you with all your technical documentation needs, including the creation and/or revision of documents such as :

- Air Craft Technical Manuals
- Operations Manuals
- Planning Documents
- Repair Substantiation Documents
- Desktop Procedures
- Loads Analysis and Report
- DNE (air craft do not exceed limits)



**INSTRUCTION AND
OPERATING MANUAL**

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AEROSPACE DESIGN SERVICES CAD

Maintaining a full-time staff of designers and/or draftsmen is a luxury that many companies simply cannot justify. For companies that do have full-time design staff, short-term needs for additional resources frequently arise. In either case, Acerts is here to help. We offer highly qualified assistance by project or time slot. Using industry standard modeling and design software CATIA V5, we can provide you with the expertise you need to:

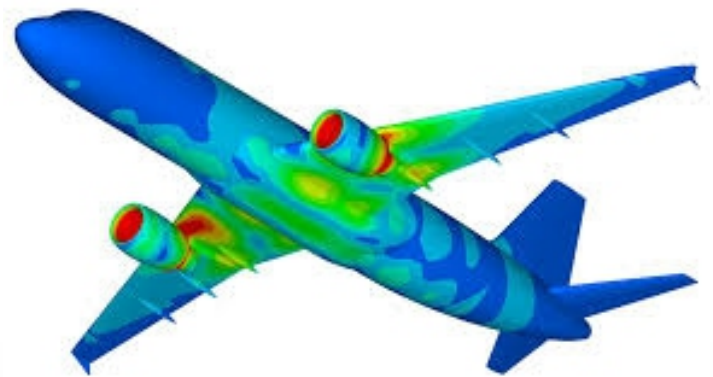
- Design new parts
- Improve existing parts Stereolithography
- Create mechanical drawings
- Perform part/assembly modeling and simulation
- Design Review Support (SRR, PRD, CDR, FRR, etc.).
- Design and styling Services
- Creation of digital mock-ups from styled (OML/IML) surfaces
- Design of Interior and Exterior parts
- Full Vehicle Integration and design of under-body parts
- Adaptation of existing design to new vehicle variants
- Composite/Plastic Mold, Stamping die, Pressure Die Casting Die, Jigs & Fixture design
- Scanning and reverse engineering
- Parametric Part modelling and CAD customization
- Legacy data conversion, 2d to 3d conversion services
- Onsite manpower deployment
- PLM implementation and customization
- Interactive part catalogs and manufacturing process simulation



AERO SPACE (FEA) SERVICES

Acerts

Modeling — Nastran/Patran,
FEMAP,
Hypermesh,
Abaqus,
LS-Dyna and Catia V5
Analytical Tools – MIL_HBKS and BDMS.



AUTOMOTIVE CAE CAPABILITIES

Full Vehicle Crash Analysis using LS_dyna

Air bags Analysis using LS_Dyna

Static, Dynamic, Non-Linear and Non-linear Dynamic,
Buckling, Modal, Transient simulations

Occupant safety, Crash, Impact as per standards like
FMVSS

Product optimization and weight reduction

Product validation using alternate materials

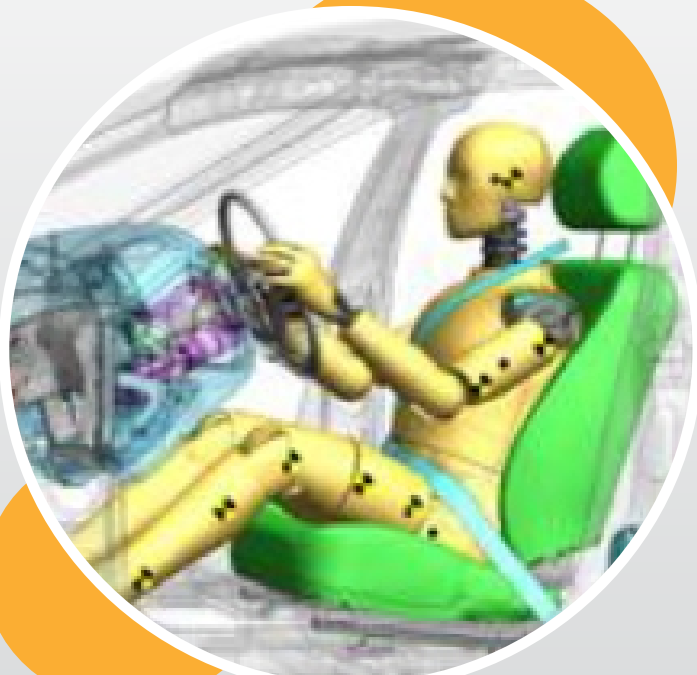
External vehicle aerodynamics and HVAC using CFD

Thermal, Modal, Vibration analysis on components like
headlamps, tail lamps, radiators, mounting brackets etc

Durability, Vehicle stability, NVH, Rollover simulation

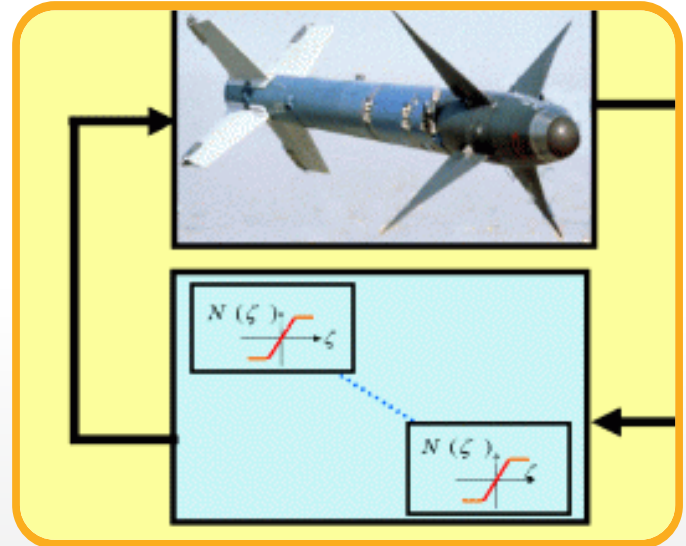
Mechanism simulation and multi-body dynamics

Moldflow and Sheet metal forming simulation for tool
design validation



We offer a wide range of electrical applications from the flight and propulsion systems of commercial airliners to industrial automation. ACerts is here to help provide you with the expertise you need to:

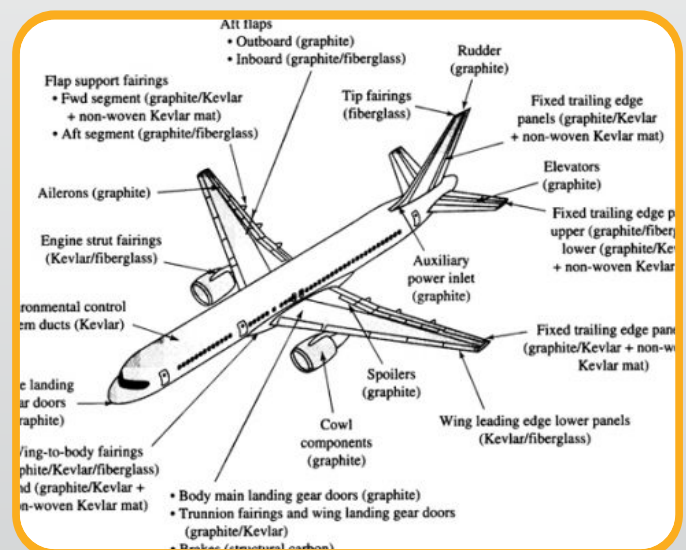
- Design a solution to today's problem
- Microprocessor-Based Design by experts
- Digital Design
- Analog Design



AIRCRAFT FATIGUE AND DAMAGE TOLERANCE

Full Inspection of all aircraft components allow safe repairs of minor damage. We know what can remain in place and what parts must be discarded. Incidental damage (scratches, gouges, and dents), may serve to initiate a crack and ultimately a fatigue failure. Let Acerts help you to remove the harmful effects of this damage by blending it out over a larger area.

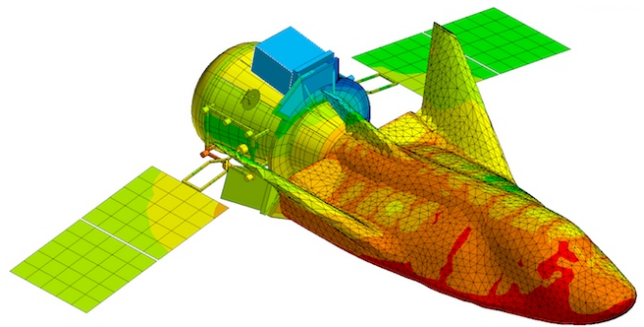
Rededication analysis is used to decide what repairs should and should not be made. Because these parts are often fatigue-critical, testing should be used to backup any recommendations obtained from the analysis. Rededication analysis involves a process, which includes the expertise and judgement of the inspectors.



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Our talented group of engineers and tech writers have combine years of experience generating documentation of the utmost quality and will assist you with all your technical documentation needs, including the creation and/or revision of documents such as :

- Crash and Thermal: LS_DYNA | advanced general-purpose multiphysics simulation
- FEMAP | Patran | Static Problems
- Linear and Nonlinear Steady State Analysis
- Transient Analysis Composite Analyss
- 1D, 2D, and 3D Analysis Techniques
- Isotropic, Anisotropic, and Time-Dependent Materials
- All Hyper Mash mashing and PrePost done Dallas in USA



Ballistic Testing and Evaluation Services

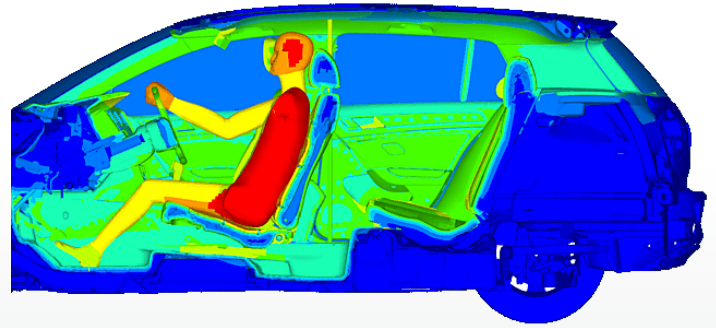
At Acerts Inc. We do combustion, grain design and performance analysis of solid rocket motor and igniter propellant grains testing. In conjunction with ballistic testing requirements and FEM crash simulation using LS_dyna, we have developed rocket motor used in the preliminary designs through a series of trades for the optimum system solution using stress software to predict accurately. Develops mehear thodologies and models for the performance prediction of sub and full scale solid rocket motor test firings and conducts subsequent post firing correlation analysis. Evaluates post fire analysis data for rocket motor combustion characteristics. Prepares impact blast analysis with Engineering Drawings and Specification Documentation relating to solid rocket propellant grains and dispositions loaded motor and/or propellant related issues. We coordinates pertinent design requirements for solid motor grains with manufacturing personnel and assists in the definition of associated tooling and manufacturing processes. Evaluates material obsolescence issues related to propellant and motor performance

FEM Modeling Guidelines Document

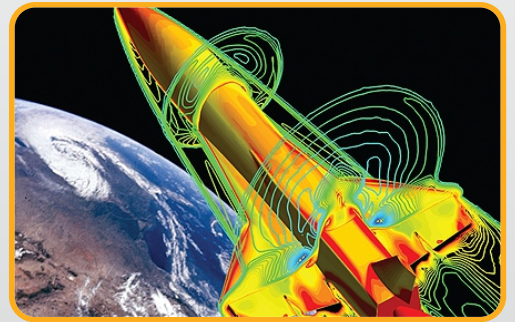
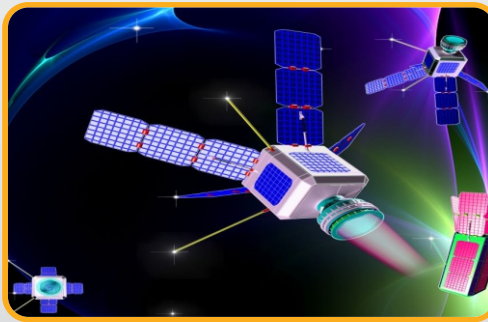
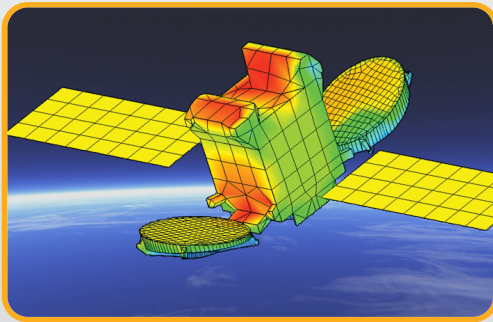
Aerospace USAF has produce an evolving set of guidelines for modeling dynamic aerospace-type problems with FEM. These guidelines are not meant to limit analysts in their approach to a specific problem, but instead are intended to assist them in getting started and to serve as a basis of comparison when evaluating results from new or unproven modeling techniques

Human Models for Crash and Impact Simulation

Ballistic impact bio mechanics to the consequences of real world passenger car accidents on human occupants, using computer models in numerical simulations with industrial crash codes. The corresponding developments are illustrated on the subject of safety simulations of human passenger car occupants. With some adaptations, the developed models apply equally well to the simulation of pedestrian accidents and to the design for occupant safety of motorbikes, trucks, railway vehicles, airborne vehicles, seagoing vessels and more. The human models elaborated in the chapter belong to the class of finite element models.



They can be adapted, specialized and packaged for other industrial applications in human ergonomics and comfort analysis and design, in situations where humans operate at their work place, as military combatants, or in sports and leisure activities and more. In the medical field, bio mechanical human models can serve as a basis for the simulation and design of orthopedic prostheses, for bone fracture planning, physical rehabilitation analysis, the simulation of blood flow, artificial blood vessels, artificial heart valves, bypass operations, and heart muscle activity, and virtual organ surgery.



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PETROLEUM REFINERY

Petroleum Refinery Testing, Research, Inspection, And Consulting Expertise.

Acerts Inc. oil refinery clients for the entire range of petroleum refining activities with laboratory testing, inspection services, infrastructure integrity, and other expertise.

From crude oil feedstocks to final petroleum refined products, Acerts Inc. helps refinery clients achieve higher production efficiencies, improved quality, and sustained profitability. Petroleum refinery expertise is available on a global basis.

Acerts Inc. laboratory testing supports the global oil & gas, petroleum refining, and petrochemical industries. Testing services are available on a **24/7/365 basis**. The full range of petroleum and petrochemical feedstock, intermediate, and final refined products are tested for quality control, troubleshooting, contamination, purity and components, and other applications.

Refinery support services:

- Crude Oil and Petroleum Feedstocks Tests
- Fuel Quality Testing
- Petroleum Services
- Petroleum Laboratory
- Petroleum Testing
- Petroleum Cargo Inspection
- Crude Oil Rail Car Services
- Trouble-shooting and Problem-solving
- Catalyst Evaluation and Testing
- Industrial Inspection
- Corrosion Services
- CO2 Emission Calculation
- Laboratory Consulting, Evaluation and Benchmarking
- Hazardous Locations Services
- Petroleum Pilot Plant Services
- Refining and Distribution
- Quality control testing at all stages



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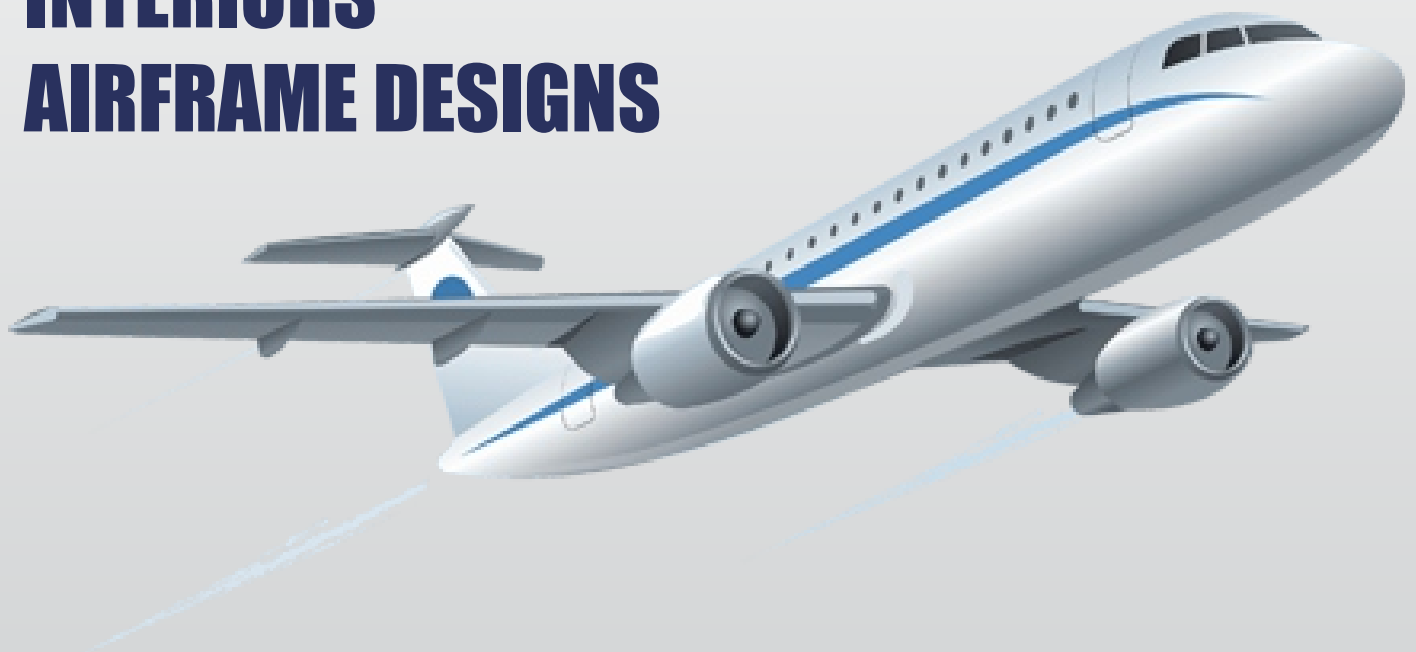
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- Emergency Power and Lighting Systems

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- ICS
- Audio/Video System

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Suite 301
Cambridge, MA 02140 USA

Windmill Repairs:
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Mojave, CA 93501 USA

Engine/Composite Manufacturing Division
51848 Wood Ward Avenue
Pontiac, Michigan 48342 USA